

Message Text

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HQ USAF WASHDC//LG//LGT//XOO//XOX//IN//SP//XOXX//LGTT

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ERDA FOR HILL

EO 11652: NA

TAGS: TGEN PFOR UR US

SUBJECT: US-USSR ENERGY COOPERATION: MHD MAGNET DELIVERY (08.0208)

1. C-5 TRANSPORT WITH MAGNET ARRIVED ON SCHEDULE JUNE 20, AND UNLOADING AND INSTALLATION OPERATIONS AT U-25 FACILITY PROCEEDED FLAWLESSLY. SOVIETS WERE OBVIOUSLY PLEASED AND IMPRESSED WITH THE U.S. ORGANIZATION AND PLANNING FOR THIS DIFFICULT OPERATION AND THE PRECISION WITH WHICH IT WAS CARRIED OUT.

2. SOVIET REPRESENTATION AT THE 9:00 A.M. AIRPORT CEREMONY WAS HEADED BY DEPUTY MINISTER FOR POWER AND ELECTRIFICATION N.V. LOPATIN, INSTITUTE OF HIGH TEMPERATURES DIRECTOR SHEYNDLIN, AND ACADEMICIAN STYRIKOVICH, SCIENTIFIC SECRETARY
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OF THE ACADEMY OF SCIENCES, DIVISION OF POWER ENGINEERING. AMBASSADOR'S REMARKS, IN RUSSIAN, AT AIRPORT CEREMONY WERE PROVIDED TO VOA FOR TRANSMISSION SAME DAY. AFTER INSTALLATION OF MAGNET IN ITS SPECIAL BY-PASS STAND CONSTRUCTED BY THE SOVIETS, A PRESS CONFERENCE LED BY ACADEMICIAN SHEYNDLIN AND ERDA MHD PROJECT DIRECTOR DR. JACKSON WAS HELD AT INSTITUTE. CEREMONIES WERE CAPPED BY A CONVIVIAL LATE AFTERNOON RECEPTION

AT INSTITUTE IN WHICH THE AMBASSADOR PARTICIPATED. THE AMBASSADOR WAS ALSO GIVEN A PERSONAL TOUR OF THE MHD FACILITY BY DIRECTOR SHEYNDLIN. SOVIET COOPERATION ON MYRIAD OF DETAILS CONNECTED WITH THE MAGNET DELIVERY WAS UNIFORMLY EXCELLENT.

3. SOVIET MEDIA COVERAGE OF JUNE 20 EVENTS WAS VERY GOOD. RELATIVELY BALANCED ARTICLES ACKNOWLEDGING THE SIGNIFICANT U.S. CONTRIBUTION TO THE MHD PROGRAM APPEARED IN PRAVDA, IZVESTIA, KOMSOMOLSKAYA PROVA D AND SOTSIALISTICHESKAYA INDUSTRIYA (SURPRISINGLY, THE ARTICLE IN THIS LAST JOURNAL WAS ACCOMPANIED BY A PHOTOGRAPH OF THE MAGNET LOADED ON ITS SPECIAL TRANSPORTER LEAVING THE C-5, WHICH CLEARLY GAVE AN IMPRESSION OF THE SIZE OF THE AIRCRAFT). JUNE 20 EVENTS COVERED BY UPI, NEW YORK TIMES AND CHRISTIAN SCIENCE MONITOR, WITH AP ALSO FILING A REPORT. MHD COOPERATION ALSO RECEIVED EXTENSIVE COVERAGE AT THE WORLD ELECTOR-TECHNICAL CONGRESS. DURING A REPORT ON THE MHD COOPERATION PROGRAM JUNE 21 BY DR. JACKSON, AUDIENCE OF OVER 1,000 BROKE INTO SPONTANEOUS APPLAUSE. ACCORDING TO DR. JACKSON THIS DEMONSTRATION WAS LED BY THE SOVIETS. "VREMYA" EVENING TV NEWS BROADCAST DEVOTED APPROXIMATELY FIVE MINUTES TO MAGNET DELIVERY INCLUDING SHOTS OF AMBASSADOR AND DR. JACKSON AT AI PORT AND VIEW OF MAGNET ON ITS SPECIAL TRANSPORT.

4. INTERESTINGLY, THE ARRIVAL OF THE C-5 WAS WITNESSED BY A SIZEABLE NUMBER OF SENIOR SOVIET AIR FORCE OFFICERS WHO WERE LIMITED OFFICIAL USE

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PRESENT IN THE VIP HALL AT SHEREMET'YEVO IN CONNECTION WITH THE DEPARTURE FOR YUGOSLAVIA OF SOVIET AIR FORCE CINC CHIEF MARSHAL OF AVIATION P.S. KUTAKHOV. AN AMERICAN EMBASSY OFFICER OVERHEARD ONE OF THE SOVIET GENERALS REMARK TO ANOTHER THAT THE LANDING OF THE C-5 WAS "MARVELOUS"

5. JUNE 20 EVENTS PROVIDED EMBASSY AND ERDA TEAM OPPORTUNITY TO LEARN NEW DETAILS OF SOVIET PLANS FOR CONSTRUCTION OF COMMERCIAL SCALE MHD FACILITY (U-500). ACCORDING TO U-500 PROJECT CHIEF ENGINEER A. LONG, SOVIETS HOPE TO GET FINAL APPROVAL THIS SEPTEMBER FOR LARGE SCALE FACILITY AND EXPECT CONSTRUCTION TO BEGIN IN 1981. A RECENTLY COMPLETED MODEL OF THE U-500, ON DISPLAY AT THE INSTITUTE, DEMONSTRATES SOVIET PROJECT O BUILD MHD CHANNEL ON MOVABLE STAND WHICH WILL PERMIT CHANNEL TO UNDERGO INSPECTION OR REPLACEMENT AT FREQUENT INTERVALS. SOVIETS NOTE THAT U-500 WILL GENERATE 630 MEGAWATTS, MHD CHANNEL AND CONVENTIONAL STEAM GENERATOR EACH SUPPLYING APPROXIMATELY HALF OF OUTPUT. MHD CHANNEL COULD BE SHUT DOWN ON WEEKENDS AS NECESSARY AND CONVENTIONAL GENERATOR WILL STILL PROVIDE AMPLE POWER DURING THIS LESS-THAN-PEAK LOAD PERIOD. SOVIETS ALSO NOTE THAT WITH NEW ZIRCONIUM-BASED

CHANNEL MATERIALS, 10 DAYS OF CONTINUOUS CHANNEL OPERATIONS HAVE BEEN ACHIEVED; THEREFORE U-500 WILL NOT REQUIRE ANY RADICAL DEPARTURE FROM PRESENTLY DEVELOPED TECHNOLOGY. SOVIETS OF COURSE WILL BE AIMING FOR MUCH LONGER INTERVALS BETWEEN INSPECTION AND CHANNEL REPLACEMENT AND HOPE TO ACHIEVE AT LEAST ONE MONTH CONTINUOUS SATISFACTORY PERFORMANCE. CONSTRUCTION OF 22 METER LONG 1,000 TON CRYOGENIC MAGNET MUST BE PERFORMED IN SITU (ERDA TEAM NOTES THAT MAGNET FABRICIATION MAY WELL BE BEYOND THE SOVIET CAPABILITIES AND THEY MAY TURN TO THE U.S. FOR HELP). THE SOVIETS ESTIMATE THAT THE GAS-FIRED U-500 FACILITY WILL COST TWICE AS MUCH (APPROXIMATELY FOUR HUNDRED MILLION RUBLES) AS CONVENTIONAL FACILITY WITH SAME POWER RATING. SOVIETS ARE EVIDENTLY IMPRESSED WITH THE PROMISING RESULTS OF COAL-FIRED MHD AND HAVE SKETCHED LIMITED OFFICIAL USE

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TENTATIVE PLAN FOR THE CONSTRUCTION OF COAL-FIRED MHD STATIONS IN THE PERIOD 1990 - 1995. THESE WILL MOST LIKELY BE LOCATED IN SIBERIA TO TAKE ADVANTAGE OF CHEAP AND PLENTIFUL SIBERIAN COAL AND WILL BE ASSOCIATED WITH HIGH-VOLTAGE LINES TO BRING POWER INTO THE WESTERN PART OF THE SOVIET UNION.

6. COMMENT - THE MHD MAGNET LOAN IS AN EXCELLENT EXAMPLE OF SHARING OF FACILITIES IN WHICH BOTH SIDES STAND TO GAIN SIGNIFICANT AND APPROXIMATELY EQUAL BENEFIT. MHD NOT ONLY PROMISES A VERY SIGNIFICANT REDUCTION OF FOSSIL FUEL CONSUMPTION BUT MANY COROLLARY BENEFITS AS WELL. THE HIGHLY EFFECTIVE CLOSED-CYCLE SEED RECOVERY DEVELOPED BY THE SOVIETS MAY TURN OUT TO BE THE MOST EFFECTIVE METHOD TO REDUCE SULPHUR OXIDE POLLUTION DURING COAL-FIRED OPERATION, AND MHD LENDS ITSELF NATURALLY TO CO-GENERATION FOR HOME HEATING AND INDUSTRIAL STEAM. THE POSSIBILITIES, THEREFORE, EXIST FOR A RELATIVELY POLLUTION-FREE ELECTRIC POWER AND STEAM SOURCE THAT MAY ATTAIN EFFICIENCIES OF UP TO 80 PERCENT. THE SOVIETS APPEAR STRONGLY COMMITTED TO FULL-SCALE COMMERCIALIZATION OF MHD, AND THE U.S. SHOULD STAND TO PROFIT CONSIDERABLY FROM CONTINUED LONG-TERM COOPERATION WITH THE SOVIET IN THIS AREA. END COMMENT.
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